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NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
 NEWS 2 "Ask CAS" for self-help around the clock  
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 NEWS 4 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN  
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 NEWS 6 Aug 26 Sequence searching in REGISTRY enhanced  
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 NEWS 8 Sep 16 Experimental properties added to the REGISTRY file  
 NEWS 9 Sep 16 CA Section Thesaurus available in CAPLUS and CA  
 NEWS 10 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985  
 NEWS 11 Oct 24 BEILSTEIN adds new search fields  
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 NEWS 13 Nov 18 DKILIT has been renamed APOLLIT  
 NEWS 14 Nov 25 More calculated properties added to REGISTRY  
 NEWS 15 Dec 04 CSA files on STN  
 NEWS 16 Dec 17 PCTFULL now covers WP/PCT Applications from 1978 to date  
 NEWS 17 Dec 17 TOXCENTER enhanced with additional content  
 NEWS 18 Dec 17 Adis Clinical Trials Insight now available on STN  
 NEWS 19 Jan 29 Simultaneous left and right truncation added to COMPENDEX,  
     ENERGY, INSPEC  
 NEWS 20 Feb 13 CANCERLIT is no longer being updated  
 NEWS 21 Feb 24 METADEX enhancements  
 NEWS 22 Feb 24 PCTGEN now available on STN  
 NEWS 23 Feb 24 TEMA now available on STN  
 NEWS 24 Feb 26 NTIS now allows simultaneous left and right truncation  
 NEWS 25 Feb 26 PCTFULL now contains images  
 NEWS 26 Mar 04 SDI PACKAGE for monthly delivery of multifile SDI results  
 NEWS 27 Mar 20 EVENTLINE will be removed from STN  
 NEWS 28 Mar 24 PATDPAFULL now available on STN  
 NEWS 29 Mar 24 Additional information for trade-named substances without  
     structures available in REGISTRY  
 NEWS 30 Apr 11 Display formats in DGENE enhanced  
 NEWS 31 Apr 14 MEDLINE Reload  
 NEWS 32 Apr 17 Polymer searching in REGISTRY enhanced  
 NEWS 33 Apr 21 Indexing from 1947 to 1956 being added to records in CA/CAPLUS  
 NEWS 34 Apr 21 New current-awareness alert (SDI) frequency in  
     WPIDS/WPINDEX/WPIX  
 NEWS 35 Apr 28 RDISCLOSURE now available on STN  
 NEWS 36 May 05 Pharmacokinetic information and systematic chemical names  
     added to PHAR  
 NEWS 37 May 15 MEDLINE file segment of TOXCENTER reloaded  
 NEWS 38 May 15 Supporter information for ENCOMPAT and ENCOMPLIT updated  
 NEWS 39 May 16 CHEMREACT will be removed from STN  
 NEWS 40 May 19 Simultaneous left and right truncation added to WSCA  
 NEWS 41 May 19 RAPRA enhanced with new search field, simultaneous left and  
     right truncation  
 NEWS 42 Jun 06 Simultaneous left and right truncation added to CBNB

NEWS 43 Jun 06 PASCAL enhanced with additional data

NEWS EXPRESS	April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

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FILE 'HOME' ENTERED AT 16:41:44 ON 06 JUN 2003

```
=> file medline, uspatfull, dgene, embase, scisearch, fsta, wpids
COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                                ENTRY      SESSION
FULL ESTIMATED COST          0.21        0.21
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FILE 'MEDLINE' ENTERED AT 16:42:06 ON 06 JUN 2003

FILE 'USPATFULL' ENTERED AT 16:42:06 ON 06 JUN 2003  
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FILE 'WPIDS' ENTERED AT 16:42:06 ON 06 JUN 200  
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=> s gfp  
L1 25020 GFP

=> s green fluorescent protein  
L2 35464 GREEN FLUORESCENT PROTEIN

=> S 11 and L2  
L3 19179 L1 AND L2

=> s f64L  
L4 238 F64L

=> s E222G  
L5 47 E222G

=> s 14 and 12  
L6 230 L4 AND L2

=> s 14 and 11  
L7 230 L4 AND L1

=> s 16 and 17  
L8 226 L6 AND L7

=> s 11 and 15  
L9 44 L1 AND L5

=> s 12 and 15  
L10 47 L2 AND L5

=> s 110 and 19  
L11 44 L10 AND L9

=> s 111 and 18  
L12 35 L11 AND L8

=> s 112 and stokes shift  
L13 8 L12 AND STOKES SHIFT

=> d 113 ti abs ibib tot

L13 ANSWER 1 OF 8 USPATFULL  
TI Long wavelength engineered fluorescent proteins  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods  
of use are provided.

## CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:51221 USPATFULL

TITLE: Long wavelength engineered fluorescent proteins

INVENTOR(S): Tsien, Roger Y., La Jolla, CA, UNITED STATES  
Remington, James S., Eugene, OR, UNITED STATES  
Cubitt, Andrew B., San Diego, CA, UNITED STATES  
Heim, Roger, Del Mar, CA, UNITED STATES  
Ormo, Mats F., Huddinge, SWEDENPATENT ASSIGNEE(S): The Regents of the University of California (U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003036178	A1	20030220
APPLICATION INFO.:	US 2002-71976	A1	20020205 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-465142, filed on 16 Dec 1999, GRANTED, Pat. No. US 6403374 Continuation of Ser. No. US 1997-974737, filed on 19 Nov 1997, GRANTED, Pat. No. US 6077707 Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997, GRANTED, Pat. No. US 6054321 Continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996, GRANTED, Pat. No. US 6124128		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	GARY CARY WARE & FRIENDENRICH LLP, 4365 EXECUTIVE DRIVE, SUITE 1600, SAN DIEGO, CA, 92121-2189	
NUMBER OF CLAIMS:	1	
EXEMPLARY CLAIM:	1	

NUMBER OF DRAWINGS: 53 Drawing Page(s)  
LINE COUNT: 2098  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 2 OF 8 USPATFULL  
TI LONG WAVELENGTH ENGINEERED FLUORESCENT PROTEINS  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods of use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:17397 USPATFULL  
TITLE: LONG WAVELENGTH ENGINEERED FLUORESCENT PROTEINS  
INVENTOR(S): Wachter, Rebekka M., Creswell, OR, UNITED STATES  
Remington, S. James, Eugene, OR, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003013149	A1	20030116
APPLICATION INFO.:	US 2000-575847	A1	20000519 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1997-974737, filed on 19 Nov 1997, GRANTED, Pat. No. US 6077707 Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997, GRANTED, Pat. No. US 6054321 Continuation of Ser. No. US 1996-706408, filed on 30 Aug 1996, GRANTED, Pat. No. US 6124128		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Lisa A Haile Ph D, Gray Cary Ware & Freidenrich LLP, 4365 Executive Drive, Suite 1100, San Diego, CA, 92121-2133	
NUMBER OF CLAIMS:	187	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	63 Drawing Page(s)	
LINE COUNT:	3752	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L13 ANSWER 3 OF 8 USPATFULL  
TI Novel fluorescent proteins  
AB A GFP with an F64L mutation and an E222G mutation is provided. This GFP has a bigger Stokes shift compared to other GFPs making it very suitable for high throughput screening due to a better resolution. This GFP also has an excitation maximum between the yellow GFP and the cyan GFP allowing for cleaner band separation when used together with those GFPs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 2002:314712 USPATFULL  
TITLE: Novel fluorescent proteins  
INVENTOR(S): Bjorn, Sara Petersen, Lyngby, DENMARK  
Pagliaro, Len, Copenhagen K, DENMARK  
Thastrup, Ole, Birkerod, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002177189	A1	20021128
APPLICATION INFO.:	US 2001-887784	A1	20010619 (9)

	NUMBER	DATE

PRIORITY INFORMATION: DK 2000-953 20000619  
DK 2001-739 20010510  
US 2000-212681P 20000620 (60)  
US 2001-290170P 20010510 (60)

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747

NUMBER OF CLAIMS: 19  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 8 Drawing Page(s)  
LINE COUNT: 1225  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 4 OF 8 USPATFULL  
TI Long wavelength engineered fluorescent proteins  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods of use are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2002:136818 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Remington, S. James, Eugene, OR, United States  
Cubitt, Andrew B., San Diego, CA, United States  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, SWEDEN  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6403374	B1	20020611
APPLICATION INFO.:	US 1999-465142		19991216 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-974737, filed on 19 Nov 1997, now patented, Pat. No. US 6077707 Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997, now patented, Pat. No. US 6054321 Continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996, now patented, Pat. No. US 6124128		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Nashed, Nashaat T.	
LEGAL REPRESENTATIVE:	Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.	
NUMBER OF CLAIMS:	23	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	55 Drawing Figure(s); 53 Drawing Page(s)	
LINE COUNT:	2152	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L13 ANSWER 5 OF 8 USPATFULL  
TI Long wavelength engineered fluorescent proteins  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods of use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 2000:128162 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Cubitt, Andrew B., San Diego, CA, United States

PATENT ASSIGNEE(S) :  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, Sweden  
Remington, S. James, Eugene, OR, United States  
The Regents of the University of California, Oakland,  
CA, United States (U.S. corporation)  
Aurora Biosciences, La Jolla, CA, United States (U.S.  
corporation)  
The University of Oregon, Eugene, OR, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6124128		20000926
APPLICATION INFO.:	US 1996-706408		19960830 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Achutamurthy, Ponnathapura		
ASSISTANT EXAMINER:	Nashed, Nashaat T.		
LEGAL REPRESENTATIVE:	Fish & Richardson P.C.		
NUMBER OF CLAIMS:	37		
EXEMPLARY CLAIM:	9		
NUMBER OF DRAWINGS:	55	Drawing Figure(s);	53 Drawing Page(s)
LINE COUNT:	1735		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 6 OF 8 USPATFULL  
TI Long wavelength engineered fluorescent proteins  
AB This invention provides functional engineered fluorescent proteins with varied fluorescence characteristics that can be easily distinguished from currently existing green and blue fluorescent proteins. In one aspect, the invention provides nucleic acids, expression vectors and recombinant host cells comprising nucleotide sequences encoding functional engineered fluorescent proteins comprising aromatic substitutions at position 66 and a folding mutation. In one embodiment the invention provides for fluorescent proteins containing an aromatic substitution at Thr 203.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:77223 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Remington, S. James, Eugene, OR, United States  
Cubitt, Andrew B., San Diego, CA, United States  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, Sweden  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland,  
CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6077707		20000620
APPLICATION INFO.:	US 1997-974737		19971119 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997 which is a continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Nashed, Nashaat	
LEGAL REPRESENTATIVE:	Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.	
NUMBER OF CLAIMS:	17	

EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 53 Drawing Figure(s); 53 Drawing Page(s)  
LINE COUNT: 2162  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 7 OF 8 USPATFULL

TI Long wavelength engineered fluorescent proteins  
AB This invention provides functional engineered fluorescent proteins with varied fluorescence characteristics that can be easily distinguished from currently existing green and blue fluorescent proteins. In one embodiment the invention provides for the three dimensional structure and atomic coordinates of an **Aequorea green fluorescent protein** and methods for their use. In one embodiment, this invention provides a computational method of modeling the three dimensional structure of any other fluorescent protein based on the three dimensional structure of an **Aequorea green fluorescent protein**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:50571 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Remington, S. James, Eugene, OR, United States  
Cubitt, Andrew B., San Diego, CA, United States  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, Sweden  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6054321		20000425
APPLICATION INFO.:	US 1997-911825		19970815 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Nashed, Nashaat	
LEGAL REPRESENTATIVE:	Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	36 Drawing Figure(s); 53 Drawing Page(s)	
LINE COUNT:	2254	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 8 OF 8 WPIDS (C) 2003 THOMSON DERWENT

TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation.  
AN 2002-098224 [13] WPIDS  
AB WO 200198338 A UPAB: 20020226  
NOVELTY - A fluorescent protein (I), **F64L**, **E222G**-  
GFP derived from **green fluorescent protein (GFP)** or its analog comprising a mutated amino acid at position 1, which lies before a chromophore and a mutation at position 222 having a glutamic acid, and when expressed in cells incubated at 30 deg. C, has an excitation maximum at a higher wavelength and increased fluorescence, compared to wild-type GFP, is new.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

following:

- (1) a fusion compound (II) consisting of (I) linked to a polypeptide;
- (2) a nucleotide sequence (III) coding for (I);
- (3) a host cell (IV) transformed with (III); and
- (4) preparation of (I), comprising culturing (IV) under expression conditions, and recovering the polypeptide.

USE - (I) is useful in an in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution (claimed). (I) is useful in studying cellular functions in living cells; as a protein tag in living and fixed cells, organelle tag, a secretion marker, genetic reporter or as protein tag in transgenic animals. (I) is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker and as a marker to be used in combination with fluorescence activated cell sorting (FACS), as real-time probe working at near physiological concentration. The novel proteins can also be used as reporters to monitor live/dead biomass of organisms, such as fungi. (I) is useful as markers useful in transcriptional and translational fusions for performing transposon vector mutagenesis. Transposons encoding (I) are useful for screening promoters, and transposon vectors encoding (I) can be used for tagging plasmids and chromosomes. (I) is useful as a reporter for bacterial detection, by introducing (I) into the genome of bacteriophages. Further, by engineering (I) into genome of a phage, is useful for designing diagnostic tool.

ADVANTAGE - The increased stokes shift of **F64L**, **E222G-GFP** results in increased spectral resolution of its excitation and emission peaks. This enables more complete band separation using a conventional dichroic beam-splitter, and decreased background signal for assays incorporating **F64L**, **E222G-GFP** relative to assays based on EGFP (**F64L**, **S65T-GFP**). **F64L**, **E222G-GFP** fluorescence can be excited by conventional light source using narrow band filters, or commercially available laser producing lines at 472 nm. In either case, the greater stokes shift of **F64L**, **E222G-GFP** results in lower cross-talk from excitation light to the toe of the emission spectrum. The excitation maximum of **F64L**, **E222G-GFP** falls midway between those of the cyan fluorescent protein variant (ECFP, excitation max about 433 nm) and the yellow fluorescent protein variant (EYFP, excitation max about 513 nm). Because of this, it will allow for cleaner band separation when used together with those probes, and it is optimized for assay applications in which several GFP-labeled components will be multiplexed. Due to strong fluorescence the novel proteins are suitable tags for proteins present at low concentrations. Since no substrate is needed and visualization of the cells does not damage the cells dynamic analysis can be performed. More than one organelle can be tagged and visualized simultaneously in living cells, e.g. the endoplasmic reticulum and the cytoskeleton. By fusion of **F64L-E222G-GFP** to a signal peptide or a peptide to be secreted, secretion may be followed on-line in living cells. A precondition for that is that the maturation of a detectable number of novel fluorescent protein molecules occurs faster than the secretion. Due to strong fluorescence of the novel proteins, they are suitable as tags for proteins and gene expression, since the signal to noise ratio is significantly improved compared to the prior art proteins such as wild-type GFP. By co-expressing two of the novel proteins, the one targeted to an organelle and the other expressed in the cytosol, it is possible to calculate the relative leakage of the cytosolic protein and use that as a measure of cell integrity, and expression of the novel proteins in cells allows easy detection of changes in cell morphology, e.g. blebbing, caused by cytotoxic agents or apoptosis. The morphological changes are difficult to visualize in intact cells without the use of fluorescent probes. Due to the increased brightness of the novel proteins the quality of the cell detection and sorting can be significantly improved. Since **F64L-E222G-GFP** is significantly brighter than wild-type

GFP and F64L-GFP when expressed in cells at 37 deg. C and excited with light at about 490 nm, the concentration needed for visualization can be lowered. Target sites for enzymes engineered into the novel proteins e.g. F64L-E222G-GFP, can therefore be present in the cell at low concentrations in living cells. This is important for the two reasons, i.e. the probe must interfere as little as possible with the intracellular process being studied; the translational and transcriptional apparatus should be stressed minimally. By constitutive expression of F64L-E222G-GFP in fungi the viable biomass will light up.

Dwg.0/5

ACCESSION NUMBER: 2002-098224 [13] WPIDS  
 DOC. NO. CPI: C2002-030678  
 TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation.  
 DERWENT CLASS: B04 D16  
 INVENTOR(S): BJORN, S P; PAGLIARO, L; THASTRUP, O  
 PATENT ASSIGNEE(S): (BIOI-N) BIOIMAGE AS; (BJOR-I) BJORN S P; (PAGL-I) PAGLIARO L; (THAS-I) THASTRUP O  
 COUNTRY COUNT: 95  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001098338	A2	20011227 (200213)*	EN	41	
RW:	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW				
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
AU 2001079669	A	20020102 (200230)			
US 2002177189	A1	20021128 (200281)			
EP 1299414	A2	20030409 (200325)	EN		
R:	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR				

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001098338	A2	WO 2001-EP6848	20010618
AU 2001079669	A	AU 2001-79669	20010618
US 2002177189	A1 Provisional	US 2000-212681P	20000620
	Provisional	US 2001-290170P	20010510
		US 2001-887784	20010619
EP 1299414	A2	EP 2001-957861	20010618
		WO 2001-EP6848	20010618

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001079669	A Based on	WO 200198338
EP 1299414	A2 Based on	WO 200198338

PRIORITY APPLN. INFO: US 2001-290170P 20010510; DK 2000-953  
 20000619; US 2000-212681P 20000620; DK 2001-739  
 20010510

=> d his

(FILE 'HOME' ENTERED AT 16:41:44 ON 06 JUN 2003)

FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, SCISEARCH, FSTA, WPIDS' ENTERED  
AT 16:42:06 ON 06 JUN 2003

L1 25020 S GFP  
L2 35464 S GREEN FLUORESCENT PROTEIN  
L3 19179 S L1 AND L2  
L4 238 S F64L  
L5 47 S E222G  
L6 230 S L4 AND L2  
L7 230 S L4 AND L1  
L8 226 S L6 AND L7  
L9 44 S L1 AND LS  
L10 47 S L2 AND LS  
L11 44 S L10 AND L9  
L12 35 S L11 AND L8  
L13 8 S L12 AND STOKES SHIFT

=> d l12 ti abs ibib tot

L12 ANSWER 1 OF 35 USPATFULL

TI Long wavelength engineered fluorescent proteins

AB Engineered fluorescent proteins, nucleic acids encoding them and methods  
of use are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:51221 USPATFULL

TITLE: Long wavelength engineered fluorescent proteins

INVENTOR(S): Tsien, Roger Y., La Jolla, CA, UNITED STATES

Remington, James S., Eugene, OR, UNITED STATES

Cubitt, Andrew B., San Diego, CA, UNITED STATES

Heim, Roger, Del Mar, CA, UNITED STATES

Ormo, Mats F., Huddinge, SWEDEN

PATENT ASSIGNEE(S): The Regents of the University of California (U.S.  
corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 2003036178 A1 20030220

APPLICATION INFO.: US 2002-71976 A1 20020205 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-465142, filed on 16  
Dec 1999, GRANTED, Pat. No. US 6403374 Continuation of  
Ser. No. US 1997-974737, filed on 19 Nov 1997, GRANTED,  
Pat. No. US 6077707 Continuation of Ser. No. US  
1997-911825, filed on 15 Aug 1997, GRANTED, Pat. No. US  
6054321 Continuation-in-part of Ser. No. US  
1996-706408, filed on 30 Aug 1996, GRANTED, Pat. No. US  
6124128

NUMBER DATE

PRIORITY INFORMATION: US 1996-24050P 19960816 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: GARY CARY WARE & FRIENDENRICH LLP, 4365 EXECUTIVE  
DRIVE, SUITE 1600, SAN DIEGO, CA, 92121-2189

NUMBER OF CLAIMS: 1

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 53 Drawing Page(s)

LINE COUNT: 2098

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 2 OF 35 USPATFULL  
TI LONG WAVELENGTH ENGINEERED FLUORESCENT PROTEINS  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods of use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:17397 USPATFULL  
TITLE: LONG WAVELENGTH ENGINEERED FLUORESCENT PROTEINS  
INVENTOR(S): Wachter, Rebekka M., Creswell, OR, UNITED STATES  
Remington, S. James, Eugene, OR, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003013149	A1	20030116
APPLICATION INFO.:	US 2000-575847	A1	20000519 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1997-974737, filed on 19 Nov 1997, GRANTED, Pat. No. US 6077707 Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997, GRANTED, Pat. No. US 6054321 Continuation of Ser. No. US 1996-706408, filed on 30 Aug 1996, GRANTED, Pat. No. US 6124128		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Lisa A Haile Ph D, Gray Cary Ware & Freidenrich LLP, 4365 Executive Drive, Suite 1100, San Diego, CA, 92121-2133	
NUMBER OF CLAIMS:	187	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	63 Drawing Page(s)	
LINE COUNT:	3752	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 3 OF 35 USPATFULL  
TI Novel fluorescent proteins  
AB A GFP with an F64L mutation and an E222G mutation is provided. This GFP has a bigger Stokes shift compared to other GFPs making it very suitable for high throughput screening due to a better resolution. This GFP also has an excitation maximum between the yellow GFP and the cyan GFP allowing for cleaner band separation when used together with those GFPs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 2002:314712 USPATFULL  
TITLE: Novel fluorescent proteins  
INVENTOR(S): Bjorn, Sara Petersen, Lyngby, DENMARK  
Pagliaro, Len, Copenhagen K, DENMARK  
Thastrup, Ole, Birkerod, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002177189	A1	20021128
APPLICATION INFO.:	US 2001-887784	A1	20010619 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	DK 2000-953	20000619
	DK 2001-739	20010510
	US 2000-212681P	20000620 (60)
	US 2001-290170P	20010510 (60)

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747  
NUMBER OF CLAIMS: 19  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 8 Drawing Page(s)  
LINE COUNT: 1225  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 4 OF 35 USPATFULL  
TI Long wavelength engineered fluorescent proteins  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods of use are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 2002:136818 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Remington, S. James, Eugene, OR, United States  
Cubitt, Andrew B., San Diego, CA, United States  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, SWEDEN  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6403374	B1	20020611
APPLICATION INFO.:	US 1999-465142		19991216 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-974737, filed on 19 Nov 1997, now patented, Pat. No. US 6077707		
	Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997, now patented, Pat. No. US 6054321		
	Continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996, now patented, Pat. No. US 6124128		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Nashed, Nashaat T.	
LEGAL REPRESENTATIVE:	Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.	
NUMBER OF CLAIMS:	23	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	55 Drawing Figure(s); 53 Drawing Page(s)	
LINE COUNT:	2152	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 5 OF 35 USPATFULL  
TI Long wavelength engineered fluorescent proteins  
AB Engineered fluorescent proteins, nucleic acids encoding them and methods of use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 2000:128162 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Cubitt, Andrew B., San Diego, CA, United States  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, Sweden  
Remington, S. James, Eugene, OR, United States  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland,

CA, United States (U.S. corporation)  
Aurora Biosciences, La Jolla, CA, United States (U.S.  
corporation)  
The University of Oregon, Eugene, OR, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6124128		20000926
APPLICATION INFO.:	US 1996-706408		19960830 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Achutamurthy, Ponnathapura		
ASSISTANT EXAMINER:	Nashed, Nashaat T.		
LEGAL REPRESENTATIVE:	Fish & Richardson P.C.		
NUMBER OF CLAIMS:	37		
EXEMPLARY CLAIM:	9		
NUMBER OF DRAWINGS:	55 Drawing Figure(s); 53 Drawing Page(s)		
LINE COUNT:	1735		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			

L12 ANSWER 6 OF 35 USPATFULL

TI Long wavelength engineered fluorescent proteins  
AB This invention provides functional engineered fluorescent proteins with varied fluorescence characteristics that can be easily distinguished from currently existing green and blue fluorescent proteins. In one aspect, the invention provides nucleic acids, expression vectors and recombinant host cells comprising nucleotide sequences encoding functional engineered fluorescent proteins comprising aromatic substitutions at position 66 and a folding mutation. In one embodiment the invention provides for fluorescent proteins containing an aromatic substitution at Thr 203.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:77223 USPATFULL  
TITLE: Long wavelength engineered fluorescent proteins  
INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States  
Remington, S. James, Eugene, OR, United States  
Cubitt, Andrew B., San Diego, CA, United States  
Heim, Roger, Del Mar, CA, United States  
Ormo, Mats F., Huddinge, Sweden  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland,  
CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6077707		20000620
APPLICATION INFO.:	US 1997-974737		19971119 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-911825, filed on 15 Aug 1997 which is a continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-24050P	19960816 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Nashed, Nashaat	
LEGAL REPRESENTATIVE:	Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.	
NUMBER OF CLAIMS:	17	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	53 Drawing Figure(s); 53 Drawing Page(s)	
LINE COUNT:	2162	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L12 ANSWER 7 OF 35 USPATFULL

TI Long wavelength engineered fluorescent proteins  
AB This invention provides functional engineered fluorescent proteins with varied fluorescence characteristics that can be easily distinguished from currently existing green and blue fluorescent proteins. In one embodiment the invention provides for the three dimensional structure and atomic coordinates of an Aequorea green fluorescent protein and methods for their use. In one embodiment, this invention provides a computational method of modeling the three dimensional structure of any other fluorescent protein based on the three dimensional structure of an Aequorea green fluorescent protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:50571 USPATFULL

TITLE: Long wavelength engineered fluorescent proteins

INVENTOR(S): Tsien, Roger Y., La Jolla, CA, United States

Remington, S. James, Eugene, OR, United States

Cubitt, Andrew B., San Diego, CA, United States

Heim, Roger, Del Mar, CA, United States

Ormo, Mats F., Huddinge, Sweden

PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 6054321 20000425

APPLICATION INFO.: US 1997-911825 19970815 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-706408, filed on 30 Aug 1996

NUMBER DATE

PRIORITY INFORMATION: US 1996-24050P 19960816 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Nashed, Nashaat

LEGAL REPRESENTATIVE: Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.

NUMBER OF CLAIMS: 15

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 36 Drawing Figure(s); 53 Drawing Page(s)

LINE COUNT: 2254

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 8 OF 35 DGENE (C) 2003 THOMSON DERWENT

TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -

AN AAE17520 Protein DGENE

AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue.

The GFP containing mutations at F64L and

E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated

cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is jellyfish **F64L-E222G green fluorescent protein (GFP) mutant.**

ACCESSION NUMBER: AAE17520 Protein DGENE

TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein with F64L and E222G mutation -**

INVENTOR: Bjorn S P; Pagliaro L; Thastrup O

PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.

PATENT INFO: WO 2001098338 A2 20011227

41p

APPLICATION INFO: WO 2001-EP6848 20010618

PRIORITY INFO: DK 2000-953 20000619

*considered*

US 2000-212681P 20000620

DK 2001-739 20010510

US 2001-290170P 20010510

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2002-098224 [13]

CROSS REFERENCES: N-PSDB: AAD28165

DESCRIPTION: Jellyfish **F64L-E222G green fluorescent protein (GFP) mutant.**

L12 ANSWER 9 OF 35 DGENE (C) 2003 THOMSON DERWENT

TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein with F64L and E222G mutation -**

AN AAE17519 Protein DGENE

AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue.

The GFP containing mutations at **F64L** and **E222G** has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is jellyfish **F64L green fluorescent protein (GFP) mutant.**

ACCESSION NUMBER: AAE17519 Protein DGENE

TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green**

fluorescent protein with F64L and  
E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
CROSS REFERENCES: N-PSDB: AAD28164  
DESCRIPTION: Jellyfish F64L green fluorescent  
protein (GFP) mutant.

L12 ANSWER 10 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase  
activity or dephosphorylation activity, or for measuring protein  
redistribution, has a green fluorescent  
protein with F64L and E222G mutation -  
AN AAE17518 Protein DGENE  
AB The invention relates to a fluorescent protein derived from green  
fluorescent protein (GFP) or its analogue.  
The GFP containing mutations at F64L and  
E222G has a bigger compared to other GFP's making it  
very suitable for high throughput screening due to better resolution. The  
fluorescent protein is useful in invitro assays for measuring protein  
kinase activity or dephosphorylation activity, or for measuring protein  
redistribution. The fluorescent protein is useful in studying cellular  
functions in living cells; as protein tags in transgenic animals, living  
and fixed cells; organelle tags, secretion marker and genetic reporter.  
The fluorescent protein is also useful as a cell or organelle integrity  
marker, a marker for changes in cell morphology, as transfection marker,  
and as a marker to be used in combination with fluorescence activated  
cell sorting (FACS). The novel proteins can also be used as reporters to  
monitor live or dead biomass of organisms, such as fungi. The fluorescent  
protein is also useful as markers in transcriptional and translational  
fusions for performing transposon vector mutagenesis and as a reporter  
for bacterial detection. Transposons encoding the fluorescent protein are  
useful for screening promoters and for tagging plasmids and chromosomes.  
The fluorescent protein engineered into the genome of a phage is useful  
for designing diagnostic tool. The present sequence is a DNA encoding  
enhanced F64L-E222G jellyfish green  
fluorescent protein (GFP) mutant.

ACCESSION NUMBER: AAE17518 Protein DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring  
protein kinase activity or dephosphorylation activity, or for  
measuring protein redistribution, has a green  
fluorescent protein with F64L and  
E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
CROSS REFERENCES: N-PSDB: AAD28163

DESCRIPTION: Enhanced F64L-E222G jellyfish  
green fluorescent protein mutant.

L12 ANSWER 11 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAE17517 Protein DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is enhanced F64L jellyfish green fluorescent protein (GFP) mutant.

ACCESSION NUMBER: AAE17517 Protein DGENE

TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -

INVENTOR: Bjorn S P; Pagliaro L; Thastrup O

PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.

PATENT INFO: WO 2001098338 A2 20011227 41p

APPLICATION INFO: WO 2001-EP6848 20010618

PRIORITY INFO: DK 2000-953 20000619

US 2000-212681P 20000620

DK 2001-739 20010510

US 2001-290170P 20010510

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2002-098224 [13]

CROSS REFERENCES: N-PSDB: AAD28162

DESCRIPTION: Enhanced F64L jellyfish green fluorescent protein mutant.

L12 ANSWER 12 OF 35 DGENE (C) 2003 THOMSON DERWENT

TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -

AN AAD28181 DNA DGENE

AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue.

The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The

fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28181 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 4lp  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 1262-bottom PCR primer.

L12 ANSWER 13 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28180 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The **GFP** containing mutations at **F64L** and **E222G** has a bigger compared to other **GFP**'s making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful

for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28180 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 1261-top PCR primer.

L12 ANSWER 14 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28179 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The **GFP** containing mutations at **F64L** and **E222G** has a bigger compared to other **GFP**'s making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28179 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620

DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 1260-bottom PCR primer.

L12 ANSWER 15 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28178 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish green fluorescent protein (GFP) plasmid.

ACCESSION NUMBER: AAD28178 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -

INVENTOR: Bjorn S P; Pagliaro L; Thastrup O

PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.

PATENT INFO: WO 2001098338 A2 20011227 41p

APPLICATION INFO: WO 2001-EP6848 20010618

PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510

DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 1259-top PCR primer.

L12 ANSWER 16 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28177 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green

**fluorescent protein (GFP) or its analogue.**  
The **GFP** containing mutations at **F64L** and  
**E222G** has a bigger compared to other **GFP**'s making it  
very suitable for high throughput screening due to better resolution. The  
fluorescent protein is useful in invitro assays for measuring protein  
kinase activity or dephosphorylation activity, or for measuring protein  
redistribution. The fluorescent protein is useful in studying cellular  
functions in living cells; as protein tags in transgenic animals, living  
and fixed cells; organelle tags, secretion marker and genetic reporter.  
The fluorescent protein is also useful as a cell or organelle integrity  
marker, a marker for changes in cell morphology, as transfection marker,  
and as a marker to be used in combination with fluorescence activated  
cell sorting (FACS). The novel proteins can also be used as reporters to  
monitor live or dead biomass of organisms, such as fungi. The fluorescent  
protein is also useful as markers in transcriptional and translational  
fusions for performing transposon vector mutagenesis and as a reporter  
for bacterial detection. Transposons encoding the fluorescent protein are  
useful for screening promoters and for tagging plasmids and chromosomes.  
The fluorescent protein engineered into the genome of a phage is useful  
for designing diagnostic tool. The present sequence is a PCR primer used  
for constructing jellyfish **green fluorescent**  
**protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28177 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring  
protein kinase activity or dephosphorylation activity, or for  
measuring protein redistribution, has a **green**  
**fluorescent protein with F64L and**  
**E222G mutation** -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 0328-bottom PCR primer.

L12 ANSWER 17 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase  
activity or dephosphorylation activity, or for measuring protein  
redistribution, has a **green fluorescent**  
**protein with F64L and E222G mutation** -  
AN AAD28176 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green**  
**fluorescent protein (GFP)** or its analogue.  
The **GFP** containing mutations at **F64L** and  
**E222G** has a bigger compared to other **GFP**'s making it  
very suitable for high throughput screening due to better resolution. The  
fluorescent protein is useful in invitro assays for measuring protein  
kinase activity or dephosphorylation activity, or for measuring protein  
redistribution. The fluorescent protein is useful in studying cellular  
functions in living cells; as protein tags in transgenic animals, living  
and fixed cells; organelle tags, secretion marker and genetic reporter.  
The fluorescent protein is also useful as a cell or organelle integrity  
marker, a marker for changes in cell morphology, as transfection marker,  
and as a marker to be used in combination with fluorescence activated  
cell sorting (FACS). The novel proteins can also be used as reporters to  
monitor live or dead biomass of organisms, such as fungi. The fluorescent  
protein is also useful as markers in transcriptional and translational

fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28176 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 0327-top PCR primer.

L12 ANSWER 18 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28175 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The GFP containing mutations at **F64L** and **E222G** has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28175 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.

PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 0326-bottom PCR primer.

L12 ANSWER 19 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28174 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish green fluorescent protein (GFP) plasmid.

ACCESSION NUMBER: AAD28174 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N)BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 0325-top PCR primer.

L12 ANSWER 20 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein

AN redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AB AAD28173 DNA DGENE  
The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish green fluorescent protein (GFP) plasmid.

ACCESSION NUMBER: AAD28173 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein plasmid constructing 0318-bottom PCR primer.

L12 ANSWER 21 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28172 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker,

and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28172 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 0317-top PCR primer.

L12 ANSWER 22 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28171 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The GFP containing mutations at **F64L** and **E222G** has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.

ACCESSION NUMBER: AAD28171 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green**

fluorescent protein with F64L and  
E222G mutation -

INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510

DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 9841-bottom PCR primer.

L12 ANSWER 23 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase  
activity or dephosphorylation activity, or for measuring protein  
redistribution, has a green fluorescent  
protein with F64L and E222G mutation -  
AN AAD28170 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green  
fluorescent protein (GFP) or its analogue.  
The GFP containing mutations at F64L and  
E222G has a bigger compared to other GFP's making it  
very suitable for high throughput screening due to better resolution. The  
fluorescent protein is useful in invitro assays for measuring protein  
kinase activity or dephosphorylation activity, or for measuring protein  
redistribution. The fluorescent protein is useful in studying cellular  
functions in living cells; as protein tags in transgenic animals, living  
and fixed cells; organelle tags, secretion marker and genetic reporter.  
The fluorescent protein is also useful as a cell or organelle integrity  
marker, a marker for changes in cell morphology, as transfection marker,  
and as a marker to be used in combination with fluorescence activated  
cell sorting (FACS). The novel proteins can also be used as reporters to  
monitor live or dead biomass of organisms, such as fungi. The fluorescent  
protein is also useful as markers in transcriptional and translational  
fusions for performing transposon vector mutagenesis and as a reporter  
for bacterial detection. Transposons encoding the fluorescent protein are  
useful for screening promoters and for tagging plasmids and chromosomes.  
The fluorescent protein engineered into the genome of a phage is useful  
for designing diagnostic tool. The present sequence is a PCR primer used  
for constructing jellyfish green fluorescent  
protein (GFP) plasmid.

ACCESSION NUMBER: AAD28170 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring  
protein kinase activity or dephosphorylation activity, or for  
measuring protein redistribution, has a green  
fluorescent protein with F64L and  
E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510

DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 9840-top PCR primer.

L12 ANSWER 24 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28169 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The GFP containing mutations at **F64L** and **E222G** has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein (GFP)** plasmid.  
ACCESSION NUMBER: AAD28169 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 0226-top PCR primer.

L12 ANSWER 25 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28168 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The GFP containing mutations at **F64L** and **E222G** has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular

functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein** (**GFP**) plasmid.

ACCESSION NUMBER: AAD28168 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: **Green fluorescent protein**  
plasmid constructing 0225-bottom PCR primer.

L12 ANSWER 26 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28167 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein** (**GFP**) or its analogue. The **GFP** containing mutations at **F64L** and **E222G** has a bigger compared to other **GFP**'s making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish **green fluorescent protein** (**GFP**) plasmid.

ACCESSION NUMBER: AAD28167 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 9860-bottom PCR primer.

L12 ANSWER 27 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28166 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a PCR primer used for constructing jellyfish green fluorescent protein (GFP) plasmid.

ACCESSION NUMBER: AAD28166 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent

LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
DESCRIPTION: Green fluorescent protein  
plasmid constructing 9859-top PCR primer.

L12 ANSWER 28 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28165 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at F64L and E222G has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a DNA encoding jellyfish F64L-E222G green fluorescent protein (GFP) mutant.

ACCESSION NUMBER: AAD28165 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -

INVENTOR: Bjorn S P; Pagliaro L; Thastrup O

PATENT ASSIGNEE: (BIOI-N)BIOIMAGE AS.

PATENT INFO: WO 2001098338 A2 20011227 41p

APPLICATION INFO: WO 2001-EP6848 20010618

PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2002-098224 [13]

CROSS REFERENCES: P-PSDB: AAE17520

DESCRIPTION: Jellyfish F64L-E222G green fluorescent protein (GFP) mutant DNA.

L12 ANSWER 29 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation -  
AN AAD28164 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue.

The **GFP** containing mutations at **F64L** and **E222G** has a bigger compared to other **GFP**'s making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a DNA encoding jellyfish **F64L green fluorescent protein (GFP)** mutant.

ACCESSION NUMBER: AAD28164 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
CROSS REFERENCES: P-PSDB: AAE17519  
DESCRIPTION: Jellyfish **F64L green fluorescent protein (GFP)** mutant DNA.

L12 ANSWER 30 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a **green fluorescent protein** with **F64L** and **E222G** mutation -  
AN AAD28163 DNA DGENE  
AB The invention relates to a fluorescent protein derived from **green fluorescent protein (GFP)** or its analogue. The **GFP** containing mutations at **F64L** and **E222G** has a bigger compared to other **GFP**'s making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational

fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a DNA encoding enhanced **F64L-E222G** jellyfish green fluorescent protein (GFP) mutant.

ACCESSION NUMBER: AAD28163 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with **F64L** and **E222G** mutation -  
INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
CROSS REFERENCES: P-PSDB: AAE17518  
DESCRIPTION: Enhanced **F64L-E222G** jellyfish green fluorescent protein mutant DNA.

L12 ANSWER 31 OF 35 DGENE (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with **F64L** and **E222G** mutation -  
AN AAD28162 DNA DGENE  
AB The invention relates to a fluorescent protein derived from green fluorescent protein (GFP) or its analogue. The GFP containing mutations at **F64L** and **E222G** has a bigger compared to other GFP's making it very suitable for high throughput screening due to better resolution. The fluorescent protein is useful in invitro assays for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution. The fluorescent protein is useful in studying cellular functions in living cells; as protein tags in transgenic animals, living and fixed cells; organelle tags, secretion marker and genetic reporter. The fluorescent protein is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker, and as a marker to be used in combination with fluorescence activated cell sorting (FACS). The novel proteins can also be used as reporters to monitor live or dead biomass of organisms, such as fungi. The fluorescent protein is also useful as markers in transcriptional and translational fusions for performing transposon vector mutagenesis and as a reporter for bacterial detection. Transposons encoding the fluorescent protein are useful for screening promoters and for tagging plasmids and chromosomes. The fluorescent protein engineered into the genome of a phage is useful for designing diagnostic tool. The present sequence is a DNA encoding enhanced **F64L** jellyfish green fluorescent protein (GFP) mutant.

ACCESSION NUMBER: AAD28162 DNA DGENE  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with **F64L** and **E222G** mutation -

INVENTOR: Bjorn S P; Pagliaro L; Thastrup O  
PATENT ASSIGNEE: (BIOI-N) BIOIMAGE AS.  
PATENT INFO: WO 2001098338 A2 20011227 41p  
APPLICATION INFO: WO 2001-EP6848 20010618  
PRIORITY INFO: DK 2000-953 20000619  
US 2000-212681P 20000620  
DK 2001-739 20010510  
US 2001-290170P 20010510  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2002-098224 [13]  
CROSS REFERENCES: P-PSDB: AAE17517  
DESCRIPTION: Enhanced F64L jellyfish green  
fluorescent protein mutant DNA.

L12 ANSWER 32 OF 35 WPIDS (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein derived from **green fluorescent protein** useful as a transfection marker, has different excitation spectrum and/or emission spectrum compared with wild-type **green fluorescent protein**.  
AN 2003-095652 [09] WPIDS  
AB GB 2374868 A UPAB: 20030206  
NOVELTY - A fluorescent protein (I) derived from **green fluorescent protein (GFP)** or any functional GFP analog, has an amino acid sequence which is modified by amino acid substitution at position F64, at position S65 or E222, and at position S175 compared with the amino acid sequence of wild-type GFP, and has different excitation spectrum and/or emission spectrum compared with wild-type GFP, is new.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:  
(1) a fusion compound (II) comprising a protein of interest fused to (I);  
(2) a nucleic acid molecule (III) comprising a nucleotide sequence encoding (I) or (II);  
(3) an expression vector (IV) comprising suitable expression control sequences operably linked to (III); and  
(4) a host cell (V) transformed or transfected with a DNA construct comprising (IV).  
USE - (III) is useful for measuring the expression of a protein of interest in a cell, by introducing (III) into a cell, where (III) is operably linked to and under the control of an expression control sequence which moderates expression of the protein of interest, culturing the cell under conditions suitable for the expression of the protein of interest, and detecting the fluorescence emission of GFP or functional GFP analog. (III) is useful for determining the cellular and/or extracellular localization of a protein of interest. (III) is also useful for comparing the effect of one or more test substance(s) on the expression and/or localization of one or more different protein(s) of interest in a cell. The method involves:  
(a) introducing into a cell, (III) operably linked to and under the control of a first expression control sequence and optionally fused to a nucleotide sequence encoding a fusion protein of interest, and optionally, at least one different nucleic acid molecule encoding a protein reporter molecule fused to a different protein of interest, where the nucleic acid molecule is operably linked to and under the control of a second expression control sequence, and the protein reporter molecule has or is capable of generating an emission signal which is spectrally distinct from that of GFP or functional GFP analog;  
(b) culturing the cells under conditions suitable for the expression of the protein(s) of interest in the presence and absence of the test substance(s);  
(c) determining the expression and/or localization of the protein(s) in the cells by detecting the fluorescence emission by optical means; and

(d) comparing the fluorescence emission obtained in the presence and absence of the test substance(s).

The samples of the cells in a fluid medium are introduced into separate vessels for each of the test substances to be studied (all claimed).

(I) is useful as a non-toxic marker for selection of transfected cells, as a protein label in living and fixed cells, as a marker in cell or organelle fusion, for visualizing translocation of intracellular proteins to a specific organelle, as a secretion marker, as genetic reporter or protein tag for protein and gene expression in transgenic animals, as a cell or organelle integrity marker, as a transfection marker, as a marker to be used in combination with fluorescent activated cell sorting (FACS), as real-time probe working at near physiological concentrations, for performing transposon vector mutagenesis, and as a reporter for bacterial detection.

ADVANTAGE - (I) exhibits enhanced fluorescence relative to wild type GFP, when expressed in non-homologous cells at temperatures above 30 deg. C, and excited at 490 nm. (I) detects GFP reporters in mammalian cells at lower levels of expression with increased sensitivity relative to wild type GFP.

Dwg.0/7

ACCESSION NUMBER: 2003-095652 [09] WPIDS  
DOC. NO. NON-CPI: N2003-075841  
DOC. NO. CPI: C2003-024324  
TITLE: Novel fluorescent protein derived from green fluorescent protein useful as a transfection marker, has different excitation spectrum and/or emission spectrum compared with wild-type green fluorescent protein.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): JONES, A E; MICHAEL, N P; STUBBS, S L J; THOMAS, N

PATENT ASSIGNEE(S): (AMSH) AMERSHAM BIOSCIENCES UK LTD; (AMSH) AMERSHAM PHARMACIA BIOTECH UK LTD

COUNTRY COUNT: 97

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
GB 2374868	A	20021030 (200309)*		52	
WO 2002085936	A1	20021031 (200309)	EN		
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ					
NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK					
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR					
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO					
RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
GB 2374868	A	GB 2001-23288	20010928
WO 2002085936	A1	WO 2001-GB4363	20010928

PRIORITY APPLN. INFO: GB 2001-9858 20010423

L12 ANSWER 33 OF 35 WPIDS (C) 2003 THOMSON DERWENT  
TI Method for detecting a compound modulation useful to assay for protein interaction involves detecting the intracellular distribution of a detectable group conjugated with a protein.  
AN 2002-195749 [25] WPIDS  
AB WO 200203072 A UPAB: 20020418  
NOVELTY - A method for detecting a compound modulation of an intracellular

protein interaction involves providing a cell comprising a first protein conjugated to an anchor protein; detecting the intracellular distribution of the detectable group; and repeating the detection step with and without the compound.

DETAILED DESCRIPTION - A method for detecting a compound modulation of an intracellular protein interaction involves:

(a) providing a cell that contains a first heterologous conjugate comprising a first protein conjugated to a detectable group (preferably GFP) and a second heterologous conjugate comprising a second protein conjugated to an anchor protein that can specifically bind to an internal structure within the cell;

(b) detecting the intracellular distribution of the detectable group; and

(c) repeating step b) with and without the compound. The intracellular distribution of the detectable group mimics the intracellular distribution of the anchor-protein indicates the binding between the two proteins. A change in intracellular distribution of the detectable group with and without the compound indicates of the compound modulating the protein interaction.

INDEPENDENT CLAIMS are also included for the following:

(1) measuring a change in mobility of a cellular component caused by an influence involving:

(i) contacting cells comprising luminophore coupled to the cellular component, with and without the influence;

(ii) adding extraction buffer to the cells of step (i); and

(iii) measuring the light emitted from the luminophore from the cells of step (ii) where the extraction buffer comprises a cellular fixation and permeabilization agent and the difference in light intensity emitted from the cells with and without the influence indicates a difference in the mobility of the cellular component caused by the influence;

(2) optimizing the extraction buffer involving:

(i) contacting or incubating with the reference compound a mechanically intact living cell(s) comprising luminophore;

(ii) Contacting or incubating without the reference compound, cells similar to the cells in (i);

(iii) adding extraction buffer to the cells in (i) and (ii);

(iv) measuring the light emitted from the luminophore;

(v) repeating steps (i)-(iv) with extraction buffers with various concentrations of cellular fixation agent and cellular permeabilization agent; and

(vi) calculating the signal to noise (s/n) ratio as (fluorescence in stimulated cells minus the fluorescence in non-stimulated cells) divided by the fluorescence in the non-stimulated cells times 100% for each of the extraction buffers tested in step (v). The optimized extraction buffer is the buffer associated with the highest (s/n) ratio. The luminophore is capable of being redistributed in a manner which is related to the influence of the substance and/or being associated with a component which is capable of being redistributed in a manner which is related to the influence of the substance; and

(3) the extraction buffer.

USE - To assay for protein interactions in living cells; for the development of new pharmaceutical agents capable of disrupting or engaging partners in an interaction; to modulate the flow of information through signaling pathways and thus finds application in many areas of human and animal health care.

ADVANTAGE - The method does not rely on covalent interactions nor that the components need have a specific orientation upon interaction. The method is very sensitive and allows for measurement of even low affinity interactions.

Dwg. 0/20

ACCESSION NUMBER: 2002-195749 [25] WPIDS

DOC. NO. NON-CPI: N2002-148732

DOC. NO. CPI: C2002-060482

TITLE: Method for detecting a compound modulation useful to

assay for protein interaction involves detecting the intracellular distribution of a detectable group conjugated with a protein.

DERWENT CLASS: B04 C07 S03  
INVENTOR(S): BJORN, S P; HAGEL, G; NIELSEN, S J; TERRY, B R; THASTRUP, O  
PATENT ASSIGNEE(S): (BIOI-N) BIOIMAGE AS  
COUNTRY COUNT: 97  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002003072 A2	20020110 (200225)*	EN	89		
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001070481 A	20020114 (200237)				
EP 1301796	A2 20030416 (200328)	EN			
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002003072 A2		WO 2001-DK466	20010703
AU 2001070481 A		AU 2001-70481	20010703
EP 1301796 A2		EP 2001-949277	20010703
		WO 2001-DK466	20010703

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001070481 A	Based on	WO 200203072
EP 1301796	A2 Based on	WO 200203072

PRIORITY APPLN. INFO: DK 2001-775 20010516; DK 2000-1041  
20000704; DK 2000-775 20010516

L12 ANSWER 34 OF 35 WPIDS (C) 2003 THOMSON DERWENT  
TI Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation.

AN 2002-098224 [13] WPIDS

AB WO 200198338 A UPAB: 20020226  
NOVELTY - A fluorescent protein (I), F64L, E222G-GFP derived from green fluorescent protein (GFP) or its analog comprising a mutated amino acid at position 1, which lies before a chromophore and a mutation at position 222 having a glutamic acid, and when expressed in cells incubated at 30 deg. C, has an excitation maximum at a higher wavelength and increased fluorescence, compared to wild-type GFP, is new.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a fusion compound (II) consisting of (I) linked to a polypeptide;
- (2) a nucleotide sequence (III) coding for (I);
- (3) a host cell (IV) transformed with (III); and
- (4) preparation of (I), comprising culturing (IV) under expression conditions, and recovering the polypeptide.

USE - (I) is useful in an in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution (claimed). (I) is useful in studying cellular functions in living cells; as a protein tag in living and fixed cells, organelle tag, a secretion marker, genetic reporter or as protein tag in transgenic animals. (I) is also useful as a cell or organelle integrity marker, a marker for changes in cell morphology, as transfection marker and as a marker to be used in combination with fluorescence activated cell sorting (FACS), as real-time probe working at near physiological concentration. The novel proteins can also be used as reporters to monitor live/dead biomass of organisms, such as fungi. (I) is useful as markers useful in transcriptional and translational fusions for performing transposon vector mutagenesis. Transposons encoding (I) are useful for screening promoters, and transposon vectors encoding (I) can be used for tagging plasmids and chromosomes. (I) is useful as a reporter for bacterial detection, by introducing (I) into the genome of bacteriophages. Further, by engineering (I) into genome of a phage, is useful for designing diagnostic tool.

ADVANTAGE - The increased stokes shift of **F64L**, **E222G-GFP** results in increased spectral resolution of its excitation and emission peaks. This enables more complete band separation using a conventional dichroic beam-splitter, and decreased background signal for assays incorporating **F64L**, **E222G-GFP** relative to assays based on EGFP (**F64L**, **S65T-GFP**). **F64L**, **E222G-GFP** fluorescence can be excited by conventional light source using narrow band filters, or commercially available laser producing lines at 472 nm. In either case, the greater stokes shift of **F64L**, **E222G-GFP** results in lower cross-talk from excitation light to the toe of the emission spectrum. The excitation maximum of **F64L**, **E222G-GFP** falls midway between those of the cyan fluorescent protein variant (ECFP, excitation max about 433 nm) and the yellow fluorescent protein variant (EYFP, excitation max about 513 nm). Because of this, it will allow for cleaner band separation when used together with those probes, and it is optimized for assay applications in which several GFP-labeled components will be multiplexed. Due to strong fluorescence the novel proteins are suitable tags for proteins present at low concentrations. Since no substrate is needed and visualization of the cells does not damage the cells dynamic analysis can be performed. More than one organelle can be tagged and visualized simultaneously in living cells, e.g. the endoplasmic reticulum and the cytoskeleton. By fusion of **F64L-E222G-GFP** to a signal peptide or a peptide to be secreted, secretion may be followed on-line in living cells. A precondition for that is that the maturation of a detectable number of novel fluorescent protein molecules occurs faster than the secretion. Due to strong fluorescence of the novel proteins, they are suitable as tags for proteins and gene expression, since the signal to noise ratio is significantly improved compared to the prior art proteins such as wild-type GFP. By co-expressing two of the novel proteins, the one targeted to an organelle and the other expressed in the cytosol, it is possible to calculate the relative leakage of the cytosolic protein and use that as a measure of cell integrity, and expression of the novel proteins in cells allows easy detection of changes in cell morphology, e.g. blebbing, caused by cytotoxic agents or apoptosis. The morphological changes are difficult to visualize in intact cells without the use of fluorescent probes. Due to the increased brightness of the novel proteins the quality of the cell detection and sorting can be significantly improved. Since **F64L-E222G-GFP** is significantly brighter than wild-type GFP and **F64L-GFP** when expressed in cells at 37 deg. C and excited with light at about 490 nm, the concentration needed for visualization can be lowered. Target sites for enzymes engineered into the novel proteins e.g. **F64L-E222G-GFP**, can therefore be present in the cell at low concentrations in living cells. This is important for the two reasons, i.e. the probe must interfere as little as possible with the

intracellular process being studied; the translational and transcriptional apparatus should be stressed minimally. By constitutive expression of **F64L-E222G-GFP** in fungi the viable biomass will light up.

Dwg.0/5

ACCESSION NUMBER: 2002-098224 [13] WPIDS  
DOC. NO. CPI: C2002-030678  
TITLE: Novel fluorescent protein in in vitro assay for measuring protein kinase activity or dephosphorylation activity, or for measuring protein redistribution, has a green fluorescent protein with F64L and E222G mutation.  
DERWENT CLASS: B04 D16  
INVENTOR(S): BJORN, S P; PAGLIARO, L; THASTRUP, O  
PATENT ASSIGNEE(S): (BIOI-N) BIOIMAGE AS; (BJOR-I) BJORN S P; (PAGL-I) PAGLIARO L; (THAS-I) THASTRUP O  
COUNTRY COUNT: 95  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001098338	A2	20011227 (200213)*	EN	41	
RW:	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW				
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
AU 2001079669	A	20020102 (200230)			
US 2002177189	A1	20021128 (200281)			
EP 1299414	A2	20030409 (200325)	EN		
R:	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR				

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001098338	A2	WO 2001-EP6848	20010618
AU 2001079669	A	AU 2001-79669	20010618
US 2002177189	A1 Provisional	US 2000-212681P	20000620
	Provisional	US 2001-290170P	20010510
		US 2001-887784	20010619
EP 1299414	A2	EP 2001-957861	20010618
		WO 2001-EP6848	20010618

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001079669	A Based on	WO 200198338
EP 1299414	A2 Based on	WO 200198338

PRIORITY APPLN. INFO: US 2001-290170P 20010510; DK 2000-953  
20000619; US 2000-212681P 20000620; DK 2001-739  
20010510

L12 ANSWER 35 OF 35 WPIDS (C) 2003 THOMSON DERWENT  
TI New long wavelength engineered fluorescent proteins, useful as markers for gene expression, tracers of cell lineage or as fusion tags to monitor protein localization, or in detection assays, e.g. immunoassays or hybridization assays.  
AN 2002-083084 [11] WPIDS  
CR 1998-159454 [14]

NOVELTY - A functional engineered fluorescent protein (I), whose is substantially identical to the amino acid sequence of *Aequorea green fluorescent protein (A-GFP)* having a 238 residue amino acid sequence (I-a), fully defined in the specification, is new.

DETAILED DESCRIPTION - A functional engineered fluorescent protein (I), whose is substantially identical to the amino acid sequence of *Aequorea green fluorescent protein (A-GFP)* having a 238 residue amino acid sequence (I-a), fully defined in the specification, is new. (I) has an amino acid sequence that:

(a) differs from (I-a) by at least the amino acid substitution T203X; or

(b) differs from (I-a) by at least an amino acid substitution at L42, V61, T62, V68, Q69, Q94, N121, Y145, H148, V150, F165, I167, Q183, N185, L220, E222 (not ~~E222G~~) or V224.

(I) has a different fluorescent property than A-GFP.

X = an aromatic amino acid selected from H, Y, W or F.

INDEPENDENT CLAIMS are also included for the following:

(1) nucleic acid molecules comprising a nucleotide sequence encoding (I);

(2) expression vectors comprising expression control sequences operatively linked to the nucleic acid molecule comprising a sequence encoding (I);

(3) host cells comprising:

(a) recombinant host cells comprising the expression vectors; or

(b) (I) whose amino acid sequence differs from (I-a) by at least one first substitution at position T203, and at least one second substitution at position H148;

(4) fluorescently labeled antibodies comprising antibodies coupled to (I);

(5) nucleic acid molecules comprising nucleotide sequences encoding the antibodies fused to nucleotide sequences encoding (I);

(6) fluorescently labeled nucleic acid probes comprising a nucleic acid probes coupled to (I);

(7) determining if a mixture contains a target comprising:

(a) contacting the mixture with the fluorescently labeled probes; and

(b) determining if the target has bound to the probe;

(8) engineering (I), which has a fluorescent property different from A-GFP;

(9) producing fluorescence resonance energy transfers;

(10) protein comprising (I), where the crystal diffracts with at least a 2.0-3.0 Angstrom resolution;

(11) a computational method of designing a fluorescent protein;

(12) a computational method of modeling the three dimensional structure of a fluorescent protein by determining a three dimensional relationship between at least two atoms listed in the atomic coordinates fully described in the specification;

(13) a device comprising a storage device and, stored in the device, at least 10 atomic coordinates selected from those atomic coordinates fully listed in the specification;

(14) identifying a test chemical, comprising:

(a) contacting a test chemical with a sample containing a biological entity labeled with (I) or a polynucleotide encoding (I); and

(b) detecting fluorescence of (I);

(15) determining the presence of an anion of interest in a sample, comprising:

(a) introducing (I) into a sample; and

(b) determining the fluorescence of (I); and

(16) screening the effects of test compounds on ion channel activity.

USE - (I) is useful as markers for gene expression, tracers of cell lineage or as fusion tags to monitor protein localization within living cells. (I) is particularly useful for coupling engineered fluorescent proteins to antibodies, nucleic acids or other receptors for use in

detection assays, e.g. immunoassays or hybridization assays. (I) is also useful for tracking the movement of proteins in cells, or in systems for detecting induction of transcription. (I) is particularly useful for the simultaneous measurement of two or more processes within cells and is also useful as fluorescent energy donors or acceptors, as well as biosensors for detecting anions. (I) is also useful in fluorescence resonance energy transfer (FRET). The crystal structure of the green fluorescent protein is useful for designing mutants having altered fluorescent characteristics. This is particularly useful in identifying amino acids whose substitution alters fluorescent properties of the protein. The crystal structure of the green fluorescent protein is also useful for designing mutants having altered anion binding characteristics. This is particularly useful for identifying amino acids whose substitution alters the specificity and affinity of the binding site to various anions, and for monitoring anion binding and therefore the concentration of the anion.

**ADVANTAGE** - The present engineered fluorescent protein has varied fluorescent properties and has the ability to respond to ion concentrations via a change in fluorescent characteristics. The functional engineered fluorescent proteins with varied fluorescent characteristics can be easily distinguished from currently existing green and blue fluorescent proteins. The engineered fluorescent proteins enable the simultaneous measurement of two or more processes within cells and can be used as fluorescent energy donors or acceptors, as well as biosensors for detecting anions. The present engineered fluorescent proteins are particularly useful because photodynamic toxicity and auto-fluorescence of cells are significantly reduced at longer wavelengths. In particular, the introduction of the substitution T203X, where X is an aromatic amino acid, results in an increase in the excitation and emission wavelength maxima of Aequorea-related fluorescent proteins. Another primary advantage of fluorescent protein fusion proteins is that they are prepared by normal protein biosynthesis, thus completely avoiding organic synthesis and the requirement for customized unnatural amino acid analogs.

Dwg. 0/15

ACCESSION NUMBER: 2002-083084 [11] WPIDS  
CROSS REFERENCE: 1998-159454 [14]  
DOC. NO. CPI: C2002-025219  
TITLE: New long wavelength engineered fluorescent proteins,  
useful as markers for gene expression, tracers of cell  
lineage or as fusion tags to monitor protein  
localization, or in detection assays, e.g. immunoassays  
or hybridization assays.  
DERWENT CLASS: B04 D16  
INVENTOR(S): REMINGTON, S J; WACHTER, R  
PATENT ASSIGNEE(S): (UYOR-N) UNIV OREGON HEALTH SCI; (UYOR-N) UNIV OREGON  
STATE  
COUNTRY COUNT: 95  
PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG
WO 2001090147	A2 20011129 (200211)*	EN	181	
RW:	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW			
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW			
AU 2001063269	A 20011203 (200221)			
EP 1285065	A2 20030226 (200319)	EN		
R:	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR			

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001090147	A2	WO 2001-US16149	20010517
AU 2001063269	A	AU 2001-63269	20010517
EP 1285065	A2	EP 2001-937550	20010517
		WO 2001-US16149	20010517

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001063269	A Based on	WO 200190147
EP 1285065	A2 Based on	WO 200190147

PRIORITY APPLN. INFO: US 2000-575847 20000519